

**REMARKS**

Claims 12-18, 22-23, 25-32, 36-37, and 39-40 remain pending in the present application. Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

In the office action of April 20, 2006, the following actions were taken:

(1) Claims 1-7, 9-18, 20-32, and 34-40 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2006/0007287 of Cagle et al. (hereinafter "Cagle");

(2) Claims 1-5, 8, 11-16, 19, 23-30, 33, and 37-40 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,750,592 to Shinozuka et al. (hereinafter "Shinozuka");

(3) Claims 1-4, 6-7, 9, 11-15, 17-18, 20, 22-23, 25-29, 31-32, 34, 36-37, and 40 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,864,302 to Miyabayashi (hereinafter "Miyabayashi '302");

(4) Claims 1-4, 6-7, 9, 11-15, 17-18, 20, 23-29, 31-32, 34, and 37-40 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2004/0229974 of Miyabayashi (hereinafter "Miyabayashi '974");

(5) Claims 1-4, 6-7, 9, 11-15, 17-18, 20, 23-29, 31-32, 34, and 37-40 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2003/0069329 of Kubota et al. (hereinafter "Kubota");

(6) Claims 1-3, 5, and 10-11 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2004/0024083 of Lee (hereinafter "Lee");

(7) Claims 5, 16, and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyabayashi '302, Miyabayashi '974, or Kubota any of which in view of either U.S. Patent Publication No. 2004/0055508 of Miyamoto et al. (hereinafter "Miyamoto") or U.S. Patent No. 6,451,103 to Uemura et al. (hereinafter "Uemura");

(8) Claims 22 and 36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyabayashi '974 or Kubota either of which in view of U.S. Patent No. 6,536,890 to Kato et al. (hereinafter "Kato"); and

(9) Claims 24, 38, and 39 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyabayashi '302 in view of U.S. Patent No. 6,786,586 to Koga et al. (hereinafter "Koga").

It is respectfully submitted that the presently pending claims be examined and allowed. Applicants submit that each and every amendment herein, and throughout the prosecution of the present application is fully supported by the specification as originally filed, and that no new matter has been added.

Rejections under 35 U.S.C. § 102

The Examiner has rejected claims 1-40 under 35 U.S.C. 102 over several references. Before discussing the rejections, it is thought proper to briefly state what is required to sustain such a rejection. It is well settled that "[a] claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil of California*, 814 F.2d 628, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987). In order to establish anticipation under 35 U.S.C. § 102, all elements of the claim must be found in a single reference. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986), *cert. denied* 107 S.Ct. 1606 (1987). In particular, as pointed out by the court in *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1981), *cert denied*, 469 U.S. 851 (1984), "anticipation requires that each and every element of the claimed invention be disclosed in a prior art reference." "The identical invention must be shown in as complete detail as is contained in the...claim." *Richardson v. Suzuki Motor Co.* 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989).

*The Cagle reference*

The Examiner has rejected claims 1-7, 9-18, 20-32, and 34-40 under 35 U.S.C. § 102(e) as anticipated by Cagle. The rejections of claims 1-7, and 9-11 have been rendered moot by the present amendment, because these claims are no longer pending. The methods and systems of the present invention require the step of

heating of an already printed image, and a heating element configured for completing such a step. Cagle, however, fails to teach such a step or element. Rather Cagle only discloses heating of an unprinted substrate, followed by printing on said substrate. See paragraph 0056. Since Cagle fails to teach each and every element of independent claims 12 and 26, it follows that this reference also fails to do so for the claims that depend from these. Therefore, Applicant submits that, in view of the present amendments, the above remaining rejected claims are patentable over Cagle. Applicant respectfully requests that these rejections be withdrawn.

*The Shinozuka reference*

The Examiner has rejected claims 1-5, 8, 11-16, 19, 23-30, 33, and 37-40 under 35 U.S.C. § 102(b) as anticipated by Shinozuka. The rejections of claims 1-5, 8, 19, 24, 33, and 38 have been rendered moot by the present amendment, because these claims are no longer pending. Applicant submits that Shinozuka does not anticipate the present invention as set forth in the remaining claims, because it fails to teach each and every element. Like Cagle, Shinozuka fails to teach a required element of the invention, namely, a method of printing including a step of heating an image after it has been printed onto a substrate, and as system including a heating element configured to perform such heating. On the contrary, Shinozuka teaches the heating of a transfer drum onto which ink has been dispensed, followed by transfer of the ink onto the recording substrate. Therefore, the reference fails to teach the printing of an image onto a print medium with subsequent heating of said image, as in the present invention. Instead, in Shinozuka, a transfer surface is heated, not the print medium after printing that holds the permanent image. Applicant therefore submits that claims 12 and 26—and accordingly the claims depending therefrom—are patentable over Shinozuka. Applicant respectfully requests that these rejections be withdrawn.

*The Miyabayashi '302 reference*

The Examiner has rejected claims 1-4, 6-7, 9, 11-15, 17-18, 20, 22-23, 25-29, 31-32, 34, 36-37, and 40 under 35 U.S.C. § 102(e) as anticipated by Miyabayashi '302. As the Examiner has acknowledged, Miyabayashi '302 does not disclose the limitations originally set forth in claims 24 and 38. As under the present amendment

all of the remaining claims each include the limitations of one of these claims, these rejections are rendered moot. Applicant respectfully requests that these rejections be withdrawn.

*The Miyabayashi '974 reference*

The Examiner has rejected claims 1-4, 6-7, 9, 11-15, 17-18, 20, 23-29, 31-32, 34, and 37-40 under 35 U.S.C. § 102(e) as anticipated by Miyabayashi '974. Applicant submits that Miyabayashi '974 fails to teach each and every element of the present invention as claimed. While this reference teaches that heating of printed matter may be necessary to accommodate polymers with high transition temperatures, it does not teach that this method as connected with printing on non-porous substrates as they are defined in the Applicant's disclosure. In fact, the reference only refers to plain papers and media specifically for ink-jet recording, rather than the non-porous substrates such as vinyl, plastic, and offset media to which the present invention is directed. See paragraphs 0340-41. As such, Miyabayashi '974 fails to teach each and every element of independent claims 12 and 26, and therefore each claim depending from these. The rejection of claims 1-4, 6-7, and 11 are rendered moot by their cancellation in the present amendment. Applicant therefore respectfully requests that these rejections be withdrawn.

*The Kubota reference*

The Examiner has rejected claims 1-4, 6-7, 9, 11-15, 17-18, 20, 23-29, 31-32, 34, and 37-40 under 35 U.S.C. § 102(e) as anticipated by Kubota. Applicant submits that Kubota fails to teach each and every element of independent claims 12 and 26, and therefore each claim depending from these. Particularly, Kubota fails to disclose printing of an ink-jet ink including polymer-encapsulated pigment colorant and acid-functionalized polymer colloid particulates dispersed in a liquid vehicle having a volatile co-solvent, where the image is heated after printing. For example, the ink composition referred to by the Examiner (Ink 4, Table F2) was not subjected to heating. Conversely, the only compositions where heating was utilized (Ink composition A, Color Ink Set A) did not comprise polymer-encapsulated pigments—rather, the pigments and dispersants were combined by mere mixing. See paragraph 0241. These examples in Kubota provide no teaching, therefore, of the combination

of elements claimed in the present independent claims 12 and 26. Applicant submits that because the disclosure is such that the required elements are only found across multiple disparate embodiments, the Kubota reference fails to anticipate independent claims 12 and 26 and the claims depending from them. Applicant therefore respectfully requests that these rejections be withdrawn.

*The Lee reference*

The Examiner has rejected claims 1-3, 5, and 10-11 under 35 U.S.C. § 102(e) as being anticipated by Lee. However, Applicant submits that this rejection is rendered moot by the present amendment, where all present claims require a heating element or step, and Lee teaches no such element or step. Therefore, Applicant respectfully requests that this rejection be withdrawn in light of the present amendment.

*Rejections Under 35 U.S.C. § 103*

The Examiner has rejected a number of claims as being obvious in view of several references. Before discussing the obviousness rejections herein, it is thought proper to briefly state what is required to sustain such a rejection. The issue under § 103 is whether the PTO has stated a case of *prima facie* obviousness. According to the MPEP § 2142, the Examiner has the burden and must establish a case of *prima facie* obviousness by showing the prior art reference, or references combined, teach or suggest all the claim limitations in the instant application. Further, the Examiner has to establish some motivation or suggestion to combine and/or modify the references, where the motivation must arise from the references themselves, or the knowledge generally available to one of ordinary skill in the art. The Applicant respectfully asserts the Examiner has not satisfied the requirement for establishing a case of *prima facie* obviousness in any of the rejections.

*The Miyabayashi '302, Miyabayashi '947, and Kubota references in view of Miyamoto or Uemura*

The Examiner has rejected claims 5, 16, and 30 under 35 U.S.C. § 103(a) as being unpatentable over Miyabayashi '302, Miyabayashi '974, or Kubota any of which in view Miyamoto or Uemura. However, Applicant submits that the presently

pending claims are patentable. As discussed above, Miyabayashi '302, Miyabayashi '974, and Kubota each fail to teach each and every element of the present invention. Particularly, the Miyabayashi references either altogether fail to teach heating element/step (as in the '302 reference), or fail to teach this element/step as being embodied with the other elements required by the present invention (the '974 reference fails to embody heating with printing on nonporous substrates). Kubota also fails to embody heating with the presently claimed combination of elements. Furthermore, Applicant submits that the present invention is also nonobvious in view of Kubota, in that Kubota does not teach heating dispersant polymers that are attached to pigment particles. Finally, combining these references with Miyamoto or Uemura does not remedy their deficiencies, in that Miyamoto nor Uemura do not teach a heating element/step as required by independent claims 12 and 26. Therefore this combination does not render obvious claims 16 and 30, which respectively depend therefrom. Applicant submits that the claims present patentable subject matter, and requests that these rejections be withdrawn.

*The Miyabayashi '947 and Kubota references in view of Kato*

The Examiner has rejected claims 22 and 36 under 35 U.S.C. § 103(a) as being unpatentable over Miyabayashi '974 or Kubota either of which in view of Kato. The shortcomings of Miyabayashi '974 and Kubota are discussed immediately above, and are incorporated here by reference. Applicant submits that combining Kato with these references fails to remedy these shortcomings with regard to independent claims 12 and 26, as Kato does not teach a heating element or step. Therefore, the cited combination of references likewise fails to teach each and every element of the present invention as recited in claims 22 and 36, which depend therefrom. Applicant respectfully requests that these rejections be withdrawn.

*The Miyabayashi '302 reference in view of Koga*

The Examiner has rejected claims 24, 38, and 39 under 35 U.S.C. § 103(a) as being unpatentable over Miyabayashi '302 in view of Koga. Claims 24 and 38 are cancelled under the present amendment. However, because their subject matter is now claimed in claims 12 and 26, respectively, Applicant deems it proper to respond to this rejection as it pertains to said subject matter. As noted by the Examiner and in

Applicant's above remarks, Miyabayashi '302 fails to teach a heating element or step. While Koga does disclose heating of an ink-jet image after said image is printed onto a substrate, the substrate that is used is wood pulp based paper, preferably having sizing and smoothness degrees that allow penetration of ink into the paper. Koga teaches further that a higher degree of smoothness is undesirable. Col. 3, lines 19-36; col. 6 line 63 – col. 7 line 35. Koga does not teach the use of nonporous substrates such as those to which the present invention is directed. As such, one skilled in the art would find no motivation in Koga to combine its teaching with Miyabayashi '302 so as to yield the present invention, as these two references do not impart a reasonable expectation that such a combination would succeed. Applicant therefore submits that claim 39 and the subject matter formerly claimed in claims 24 and 38 are patentable over the cited references, and requests that the rejection of claim 39 be withdrawn.

In view of the foregoing, Applicants believe that all the presently pending claims present allowable subject matter and allowance is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be removed during a telephone interview, the Examiner is invited to telephone W. Bradley Haymond (Registration No. 35,186) at (541) 715-0159 so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees except for Issue Fee or credit any overpayment to Deposit Account No. 08-2025.

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Respectfully submitted,



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